

ABSTRACT OF THE DISCLOSURE

An image sensor includes a plurality of photosensitive sites which convert incident light into a charge for forming a bounded array of active imaging pixels; one or more substitutional pixels sites arranged in predetermined locations and interspersed amongst the boundary of the array of active imaging pixels; wherein the substitutional pixels are of a different design from the active imaging pixels which provides data, information or function different from the active pixels for improving performance, operation, manufacture, and/or assembly of the image sensor.